

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Pedersen et al.

Confirmation No.: 9451

Application No.: 10/657,611

Group Art Unit: 3763

Filed: September 8, 2003

Examiner: Campbell, Victoria P.

For: Flow Restrictor With Safety Feature

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Sir:

This Appeal is from the Examiner's Final Rejection of claim 1 set forth in the Final Office Action mailed from the U.S. Patent and Trademark Office on June 27, 2008.

A Notice of Appeal in response to the June 27, 2008 Final Office Action was filed on September 29, 2008.

Payment in the amount of \$ 540.00 is concurrently submitted as payment of the requisite fee under 37 C.F.R. § 41.20(b)(2), and payment in the amount of \$1,110.00 is concurrently submitted as payment for the 3 month Extension of Time extending the time period for filing the Appeal Brief from November 29, 2008 to March 2, 2009, as February 28, 2009 was a Saturday. No additional fee is believed to be required for filing the instant Appeal Brief. However, if for any reason a necessary fee is required for consideration of the instant paper, authorization is hereby given to charge the fee for the Appeal Brief and any necessary extension of time fees to Deposit Account No. 14-1447.

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### **I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is Novo Nordisk A/S, of Bagsvaerd, Denmark. The assignment was sent to the U.S. Patent and Trademark Office on January 20, 2004 and is attached hereto.

### **II. RELATED APPEALS AND INTERFERENCES**

Appellants, Appellants' representative or the Assignee are not aware of any other prior and pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

Claim 1 is pending. Claim 1 stands finally rejected. Thus, finally rejected claim 1 is at issue in the instant appeal and forms the subject matter of the instant Appeal Brief and the cancelled claims do not stand or fall together. The claim in issue is attached in the "Claims Appendix".

### **IV. STATUS OF AMENDMENTS**

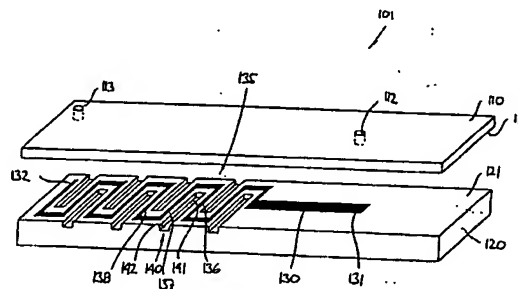
An Amendment under 37 C.F.R. § 41.33(b)(1) is filed concurrently herewith, which cancels claims 2-20 without prejudice or disclaimer, to simplify issues for appeal. Accordingly, the claim presented for appeal is that which is filed in the Amendment under 37 C.F.R. § 41.33(b)(1) filed concurrently herewith.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

### A. Claim 1

Independent claim 1 is drawn to a flow restrictor as shown in the below figure.

FIG. 1A



In particular, the flow restrictor of claim 1 comprises a U-shaped flow channel formed between two members where the flow channel has an inlet and an outlet and where the flow restrictor has a safety channel that has an end portion in fluid communication with an exterior space relative to the flow restrictor. Of importance for this appeal is the safety channel. The safety channel of claim 1 is such that it is arranged to control undesired flow away from the flow channel to prevent short circuiting. As such—and as is explicitly required by the claim—the safety channel in claim 1 must be open to the exterior.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The broad issues under consideration are:

1. Whether claim 1 is properly rejected under 35 U.S.C. § 102(b) as being anticipated by Craig et al., U.S. Patent No. 5,935,430 (hereafter "CRAIG");

## **VII. ARGUMENTS**

### **A. Summary of Rejections of Record**

1. With regard to claim 1 rejected under 35 U.S.C. § 102(b) as being anticipated by CRAIG, the rejection alleges that CRAIG discloses a flow channel as claimed and that it also discloses moat channel which the Examiner interprets as a safety channel having an opening to the exterior. The Examiner admits in the Final Rejection that the moat channel is not shown to have an end portion open to the exterior, however, the Examiner states that she interprets the moats to be open to the exterior.

### **B. Citation of Authority**

Under 35 U.S.C. § 102, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"[A]n invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed.Cir. 1989) (citing *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984); *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771-72 (Fed. Cir. 1983)). "[A]bsence from the reference of any claimed element negates

anticipation." *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986).

**C. Claim 1 Is Not Properly Rejected Under 35 U.S.C. § 102 as Being Anticipated by CRAIG.**

As noted above, a rejection under 35 U.S.C. § 102 can only be maintained if every element of the rejected claim is found in a single prior art document. The requirement that all the claimed elements be taught or suggested in the cited document has not been met. Here, claim 1 requires explicitly that "a safety channel having an end portion (142) in fluid communication with an exterior space relative to the flow restrictor and CRAIG does not disclose such a safety channel with an end portion open to the exterior.

1. No Disclosure of a Safety Channel in CRAIG Being Open to the Exterior

As a preliminary matter, the Examiner assumes that the moat structure in CRAIG is the same as the "safety channel" of claim 1. This is incorrect. Claim 1 requires that the safety channel comprise an end portion in fluid communication with an exterior space relative to the flow restrictor. Unlike the invention defined in claim 1 where the safety channel's purpose is to prevent short circuiting of the flow restrictor's primary channel, the moat of CRAIG is designed and intended to merely to collect excess transient liquids. (See CRAIG Abstract). This is apparent as CRAIG explicitly addresses the issue of transient liquids generated by diffusion bonding, which may fill the flow channels created between the two members to be fused by diffusion bonding. (See e.g., CRAIG column 3, lines 55-65). According to CRAIG, the problem is solved by a moat channel surrounding the flow channel. Thus, the moat in CRAIG is used to collect but not drain transient fluids.

Indeed, by definition the moat is “a structural feature located in a component section, wherein the moat has sufficient depth with respect to the portion of the component section that is immediately adjacent the moat such that an excess flow of transient liquid phase from the adjacent portion of the component section tends to flow into the moat.” (CRAIG column 8 line 13). This is consistent with a typically moat which ditch or similar structure used to hold a liquid such as water and maintain it around another structure, such as a castle. (See Merriam Websters Collegiate Dictionary 1998) and thus does not have an opening allowing it to drain. This interpretation is further supported by the Abstract in CRAIG that states that excess flow of transient liquids tend to “flow into the moat, wherein the excess flow may be contained.” Thus, the very purpose of the moat is to catch and retain and not drain the liquid or fluid. (See CRAIG at Column 3, lines 54-65 and Column 11 at line 66).

2. The Examiner's Interpretation that the Moats of CRAIG Have Openings to the Exterior is Unfounded.

The Examiner relies upon Col 10, lines 38-43 in CRAIG as a teaching that the moats are channels to the exterior. This provision states that a variety of ports or apertures may be in fluid communication with the flow channels or other surface features. The Examiner rightfully recognizes that the flow channels discussed here are different than the moats, but she incorrectly assumes that the term “other surface features” includes the moats. The disclosure of CRAIG itself suggests that this interpretation is incorrect. At Column 10 of CRAIG (including the cited lines 38-43 of the Final Rejection) the inventor himself describes different general designs for planar flow devices comprising flow channels which may be provided with apertures or ports. At this point in CRAIG, there is no disclosure of the moat structures in accordance with the invention. The moat structures

are first discussed in detail at column 11, however, there is absolutely no disclosure, either implicitly or explicitly, that the moat should be provided with openings to the exterior. The provision of ports and apertures is also discussed with respect to Figs. 6 and 7 (see the paragraph bridging columns 12 and 13), however, this is solely for the purpose of connecting the flow channels of the device with exterior flow structures. This is further emphasized by the embodiment in Fig. 4 in which the flow channel 334B is provided with apertures 338 whereas the moat channel 321B is not provided with any apertures or openings to the exterior in general.

Moreover, the Examiner's assumption that the moats would be provided with ports to the exterior is unfounded because the Examiner fails to point to where the transient fluids that accumulate in the moats would drain to and what would keep the molten transient fluids from clogging such ports. The clear stated purpose of the moats in CRAIG is to provide a place for the transient fluids to accumulate to prevent the transient fluids from occluding surface features and that the moats alone are the structure that contains the transient fluids. (See Column 4 lines 60-65, see column 5 lines 11-15). The Examiner fails to explain what other structure would catch the transient fluid if it were allowed to flow out of the moat to the exterior and why one would allow it to flow to the exterior to accumulate somewhere outside the moat.



## VIII. CONCLUSION

Appellants respectfully submit that the Examiner has failed to point out in a single prior art reference each and every element as set forth in pending claim 1, which is a prerequisite for maintaining a rejection under 35 U.S.C. § 102. In particular, the Examiner's assumption that the moat of CRAIG is a safety flow channel with an opening to the exterior is unsupportable for at least two reasons. First, moats in general and the moats of CRAIG in particular, are designed to collect and not drain fluids and thus would not be open to the exterior. Second, there is no explicit or implicit disclosure in CRAIG to provide an opening to the exterior in an end portion of the moat. Moreover, as the problem addressed by the present invention is neither identified in CRAIG nor relevant for the flow device disclosed in CRAIG, one would not interpret this vagueness in CRAIG as inherently or implicitly supplying structure that is not present. It is, therefore, respectfully requested that the Board reverse the Examiner's decision to finally reject claim 1, and to allow the application to issue in its present form.

Respectfully submitted,

Date: March 2, 2009

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**23650**  
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### CLAIM(S) APPENDIX

1. A flow restrictor comprising:

- a flow channel formed between at least a first member and a second member arranged in engagement with each other,
- the flow channel having an inlet end portion in fluid communication with an inlet opening and an outlet end portion in fluid communication with an outlet opening,
- the flow channel comprising a generally U-formed portion with a pair of opposed first and second channel portions, and
- a safety channel arranged between the opposed first and second channel portions,
- the safety channel comprising an end portion in fluid communication with an exterior space relative to the flow restrictor.

## EVIDENCE APPENDIX

None.

## RELATED PROCEEDINGS APPENDIX

None.